

FIG. 1

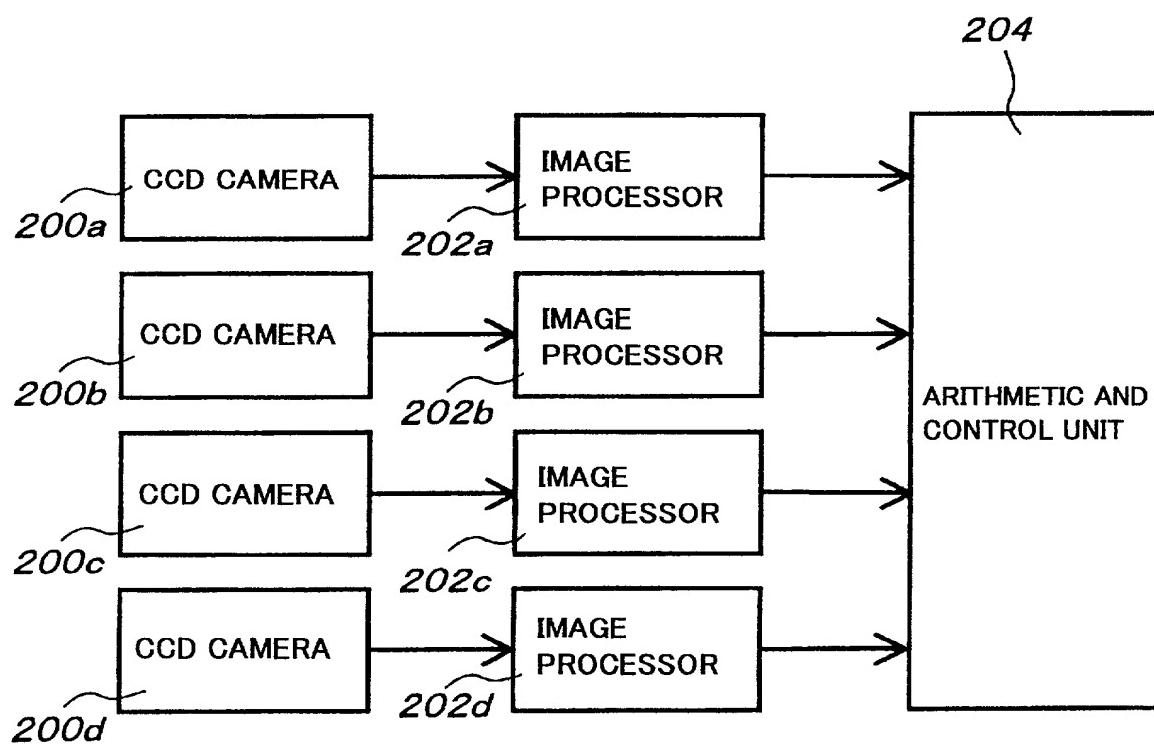


FIG. 2

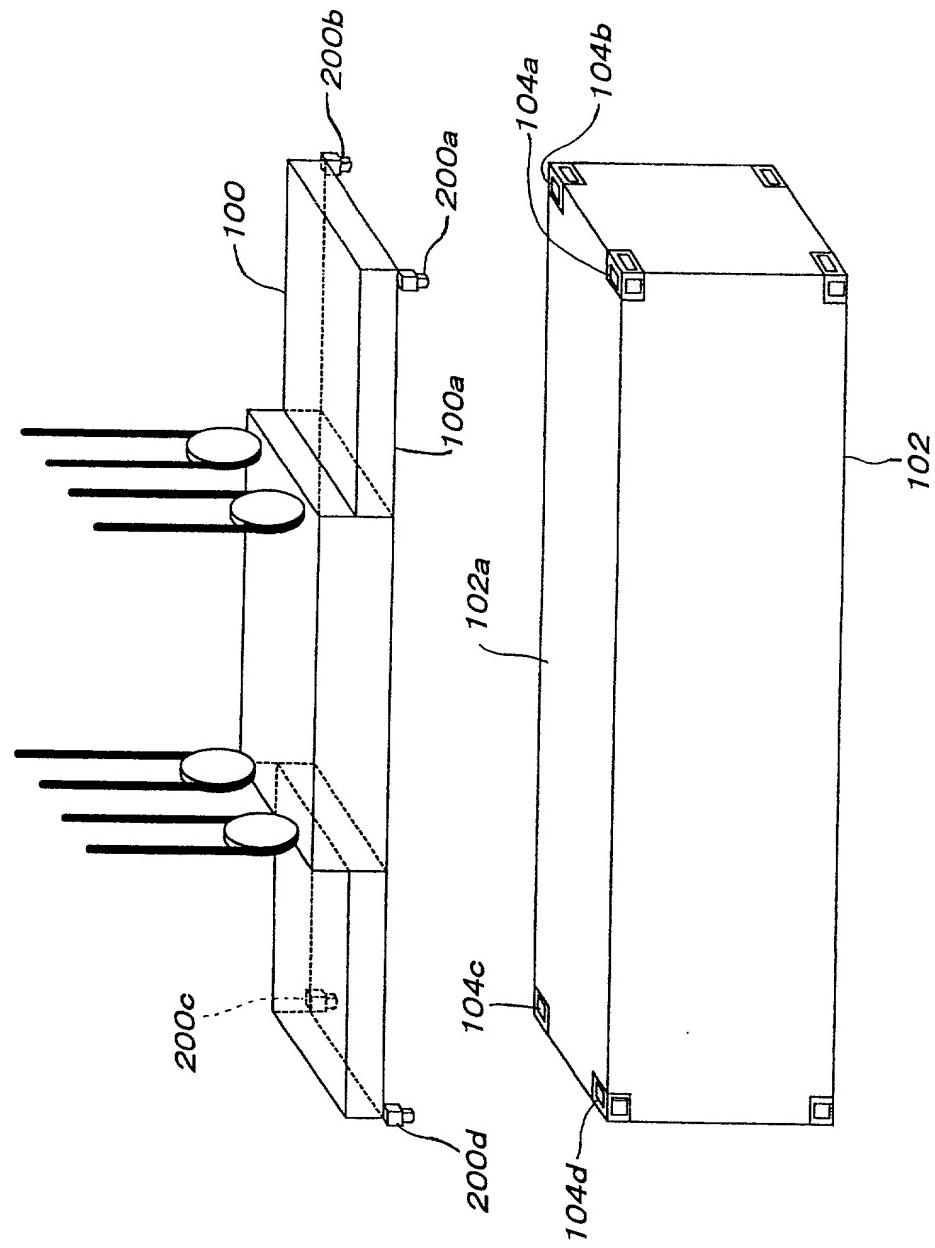


FIG. 3

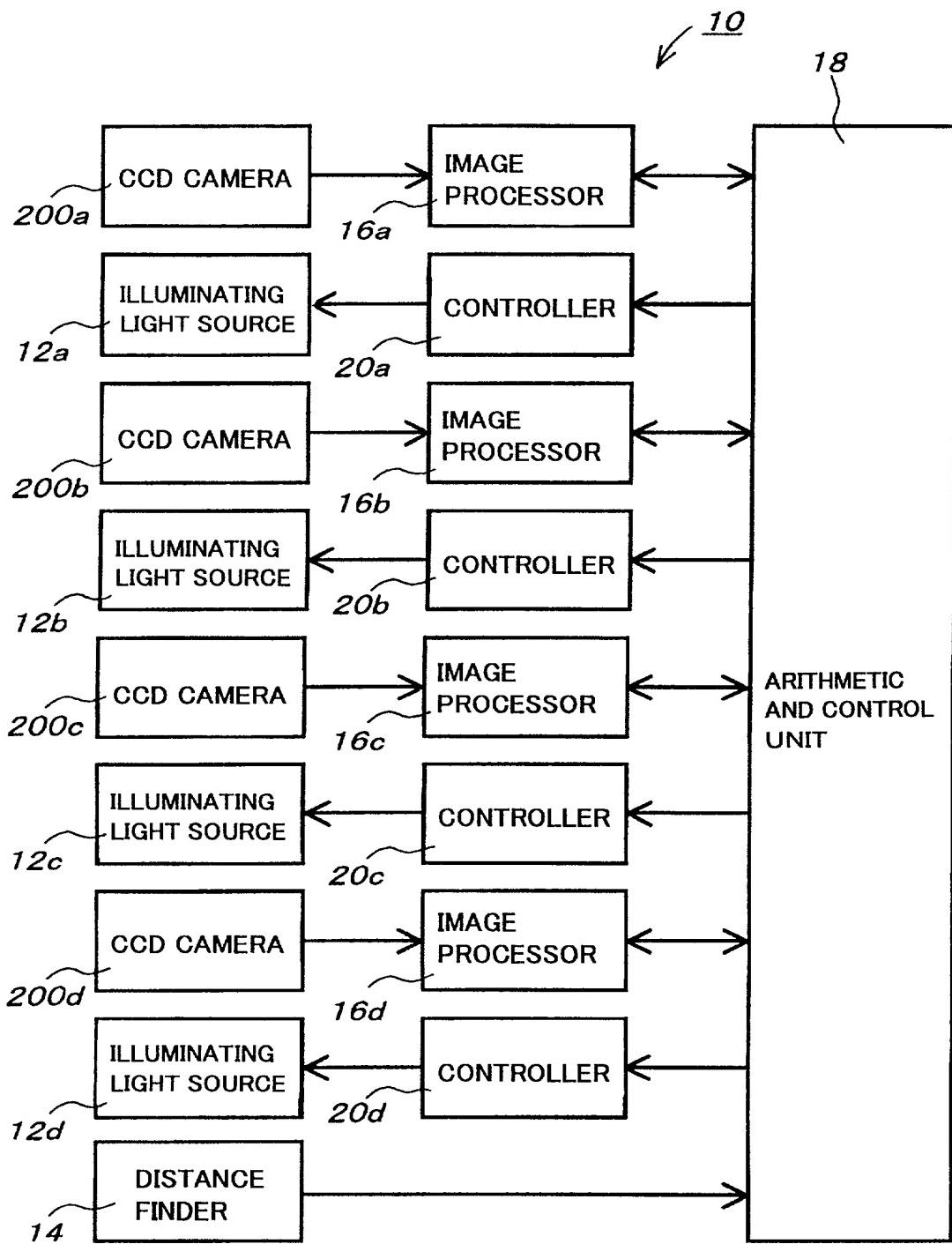


FIG. 4

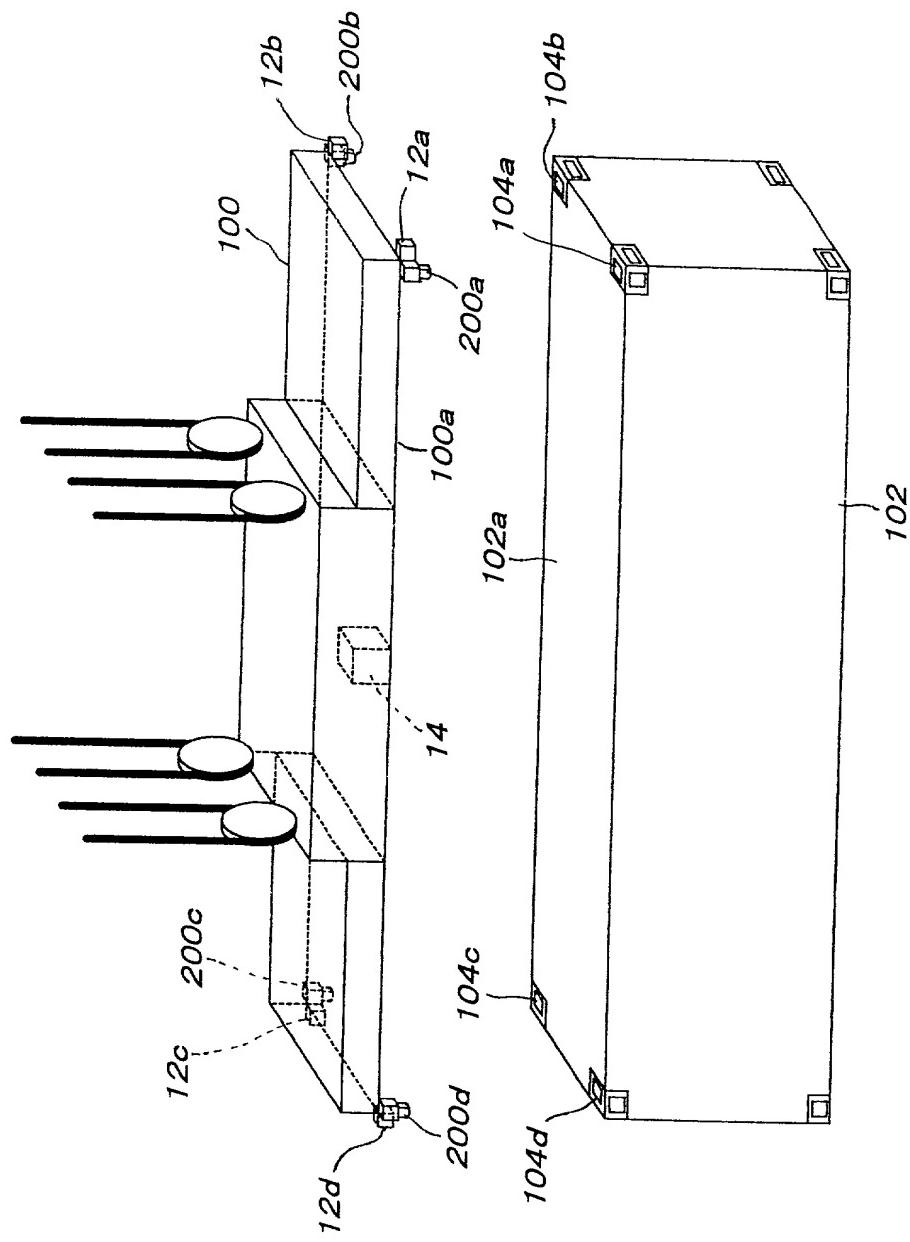


FIG. 5

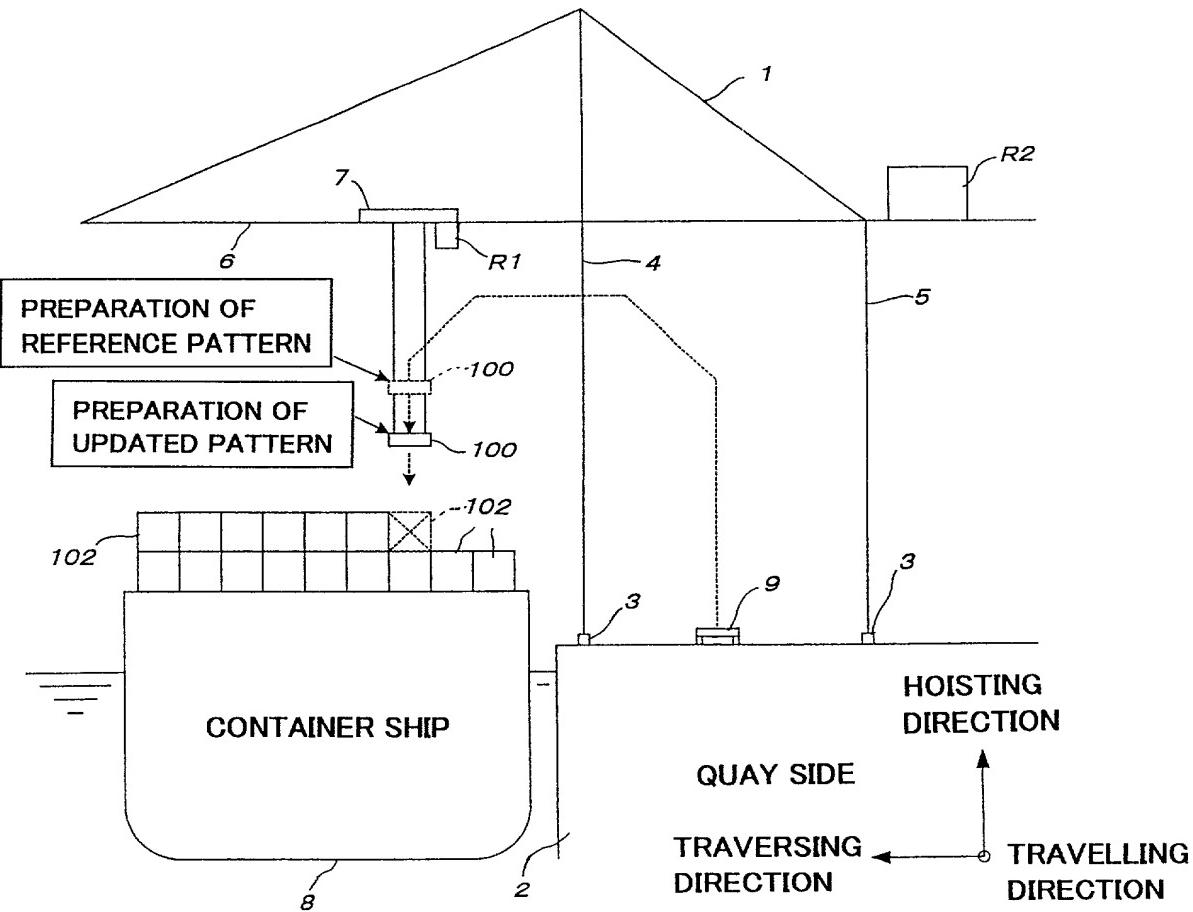


FIG. 6

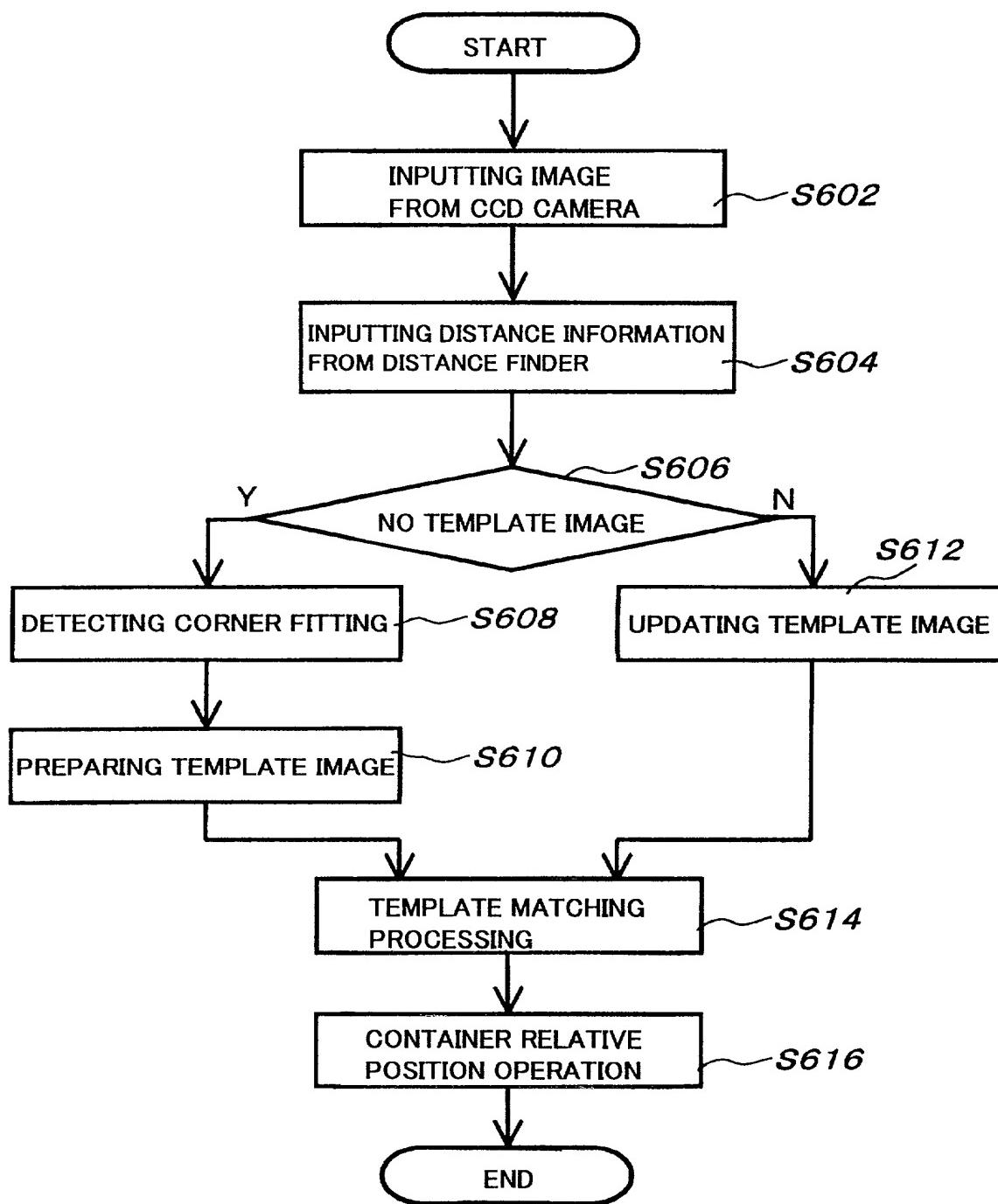


FIG. 7(a)

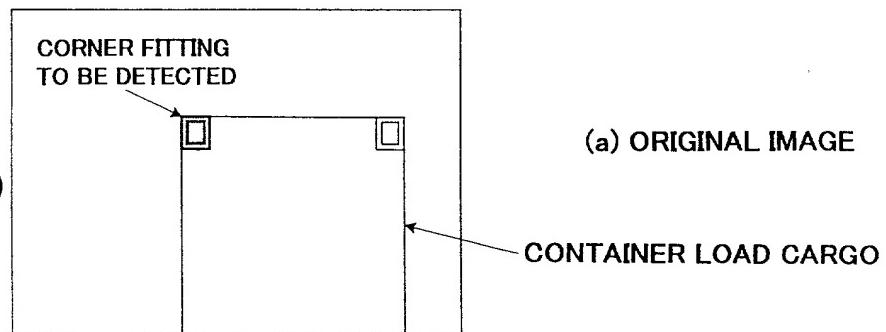


FIG. 7(b)

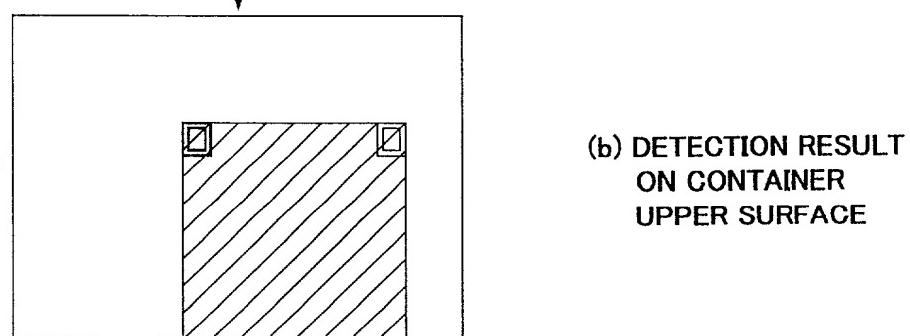


FIG. 7(c)

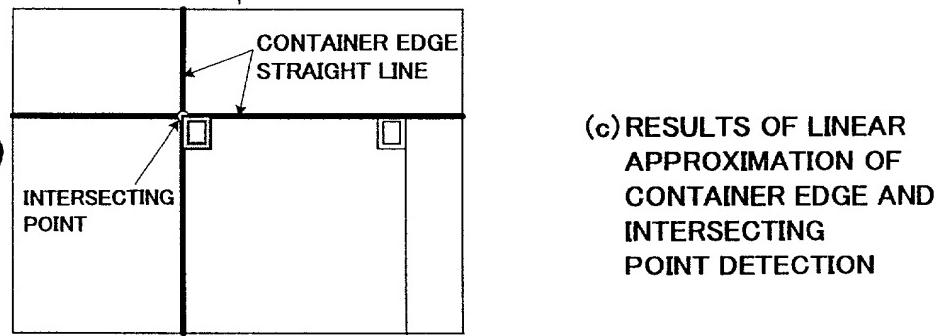


FIG. 7(d)

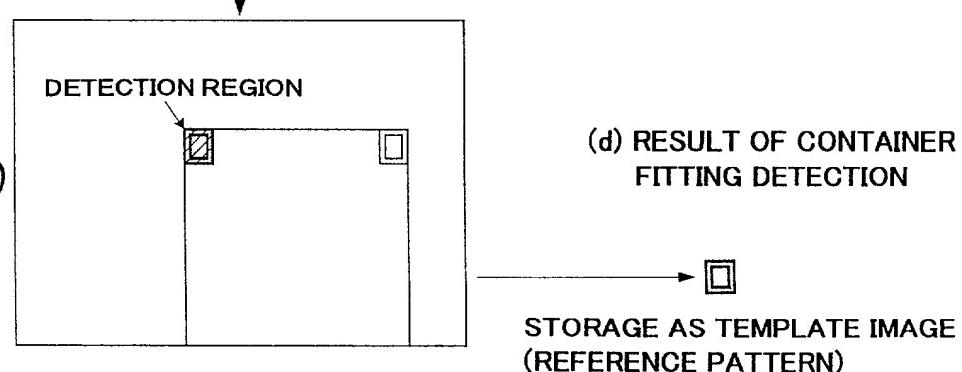


FIG. 8

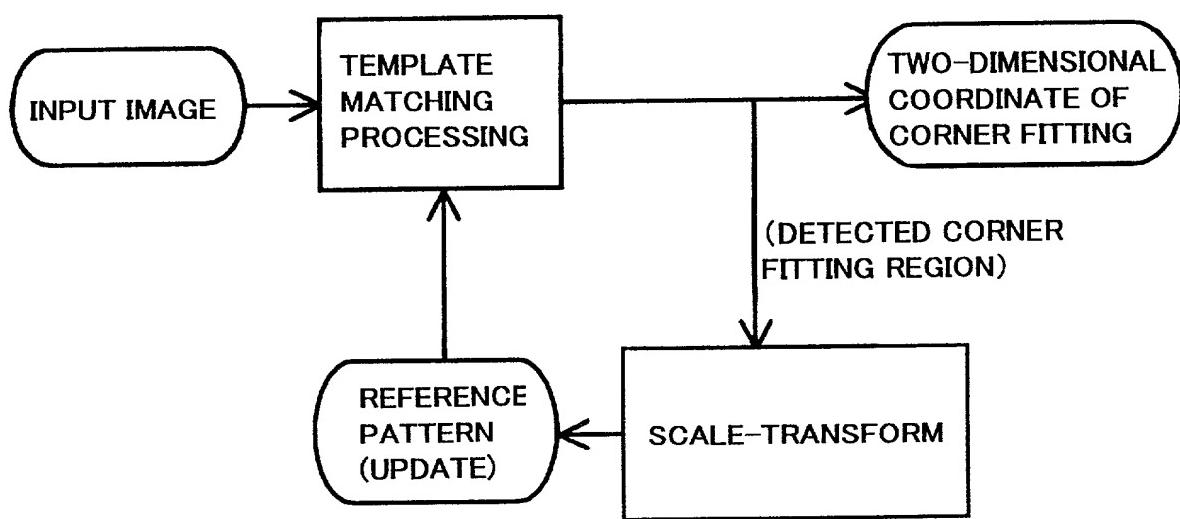
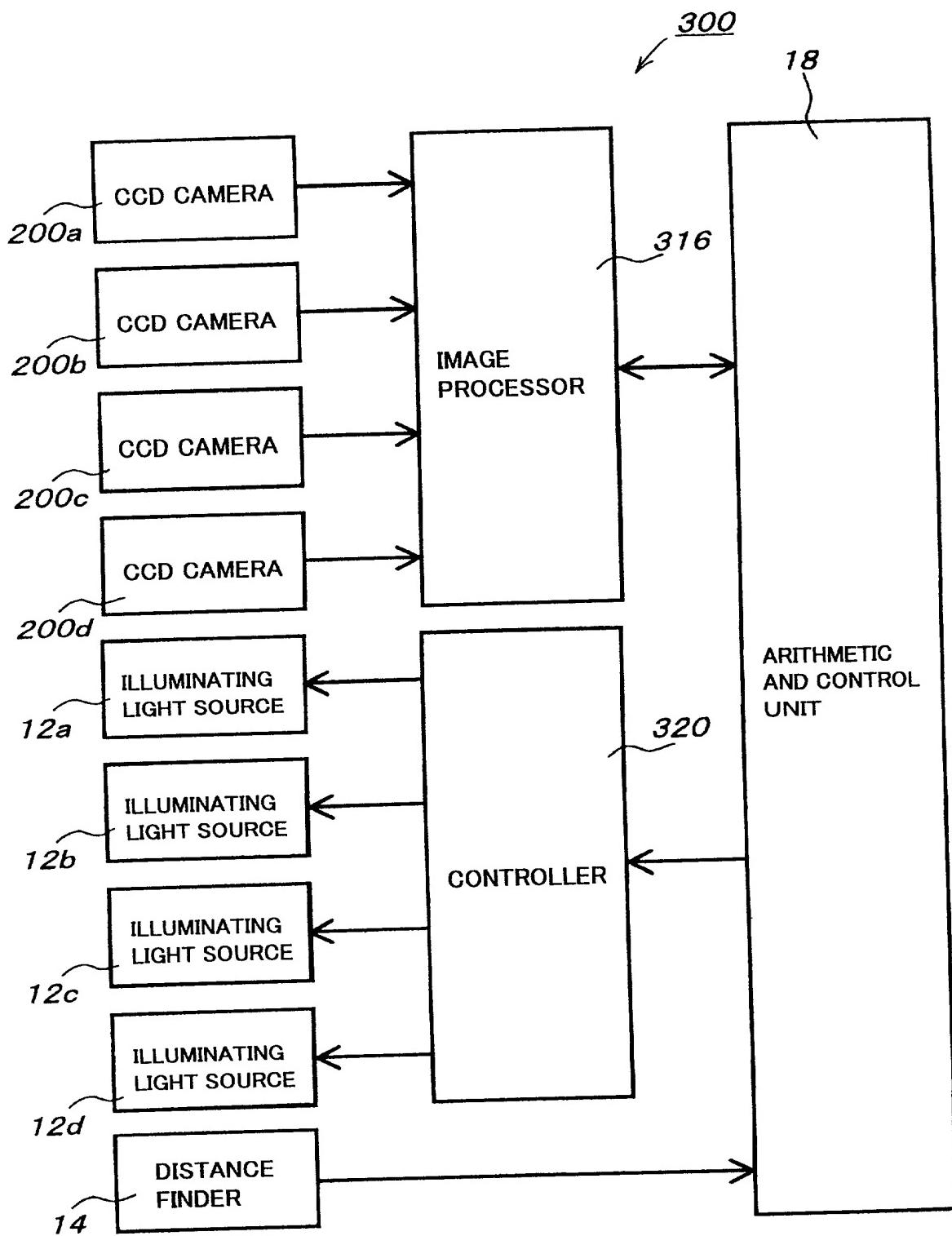


FIG. 9



099417233 410502

FIG. 10

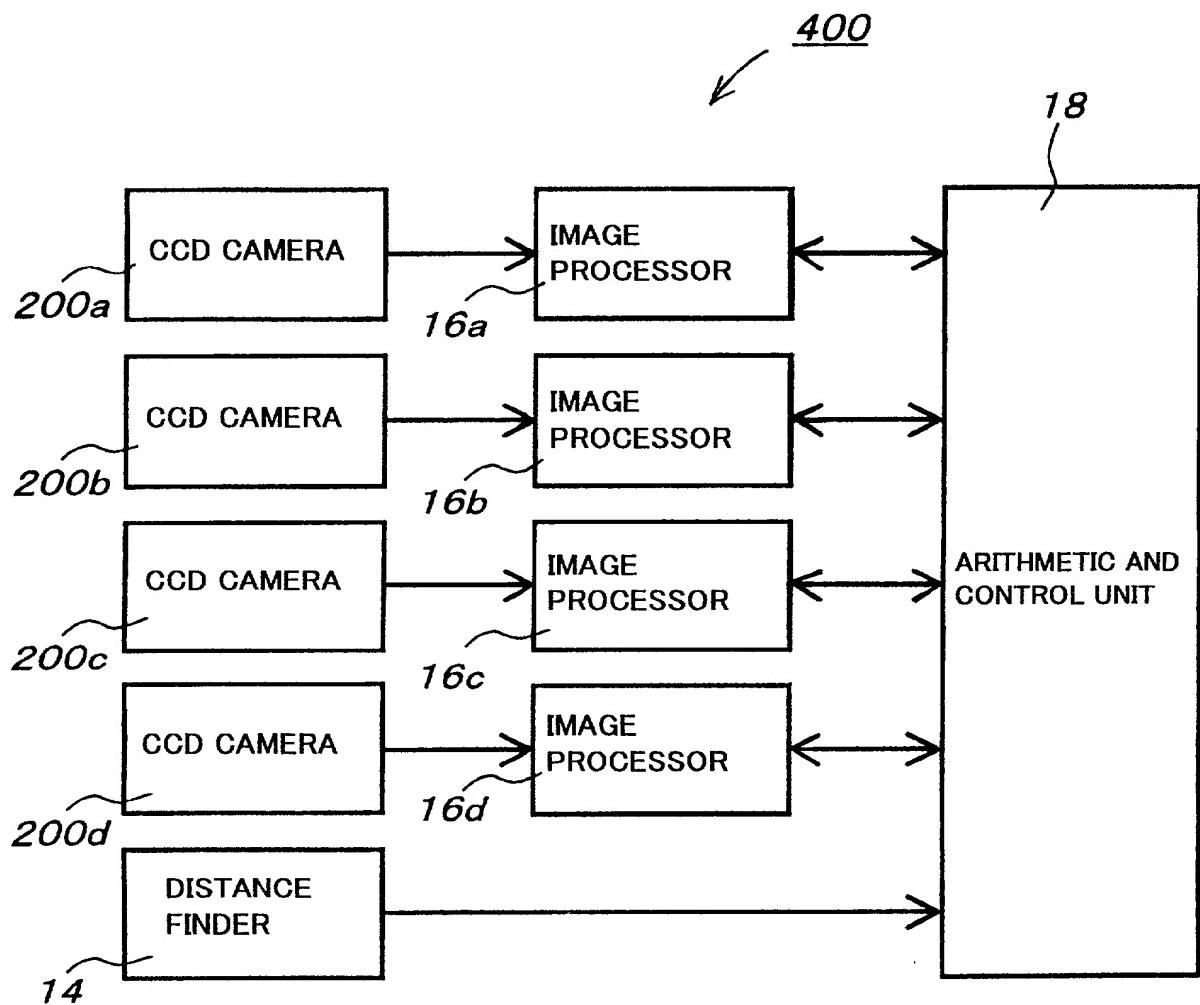


FIG. 11

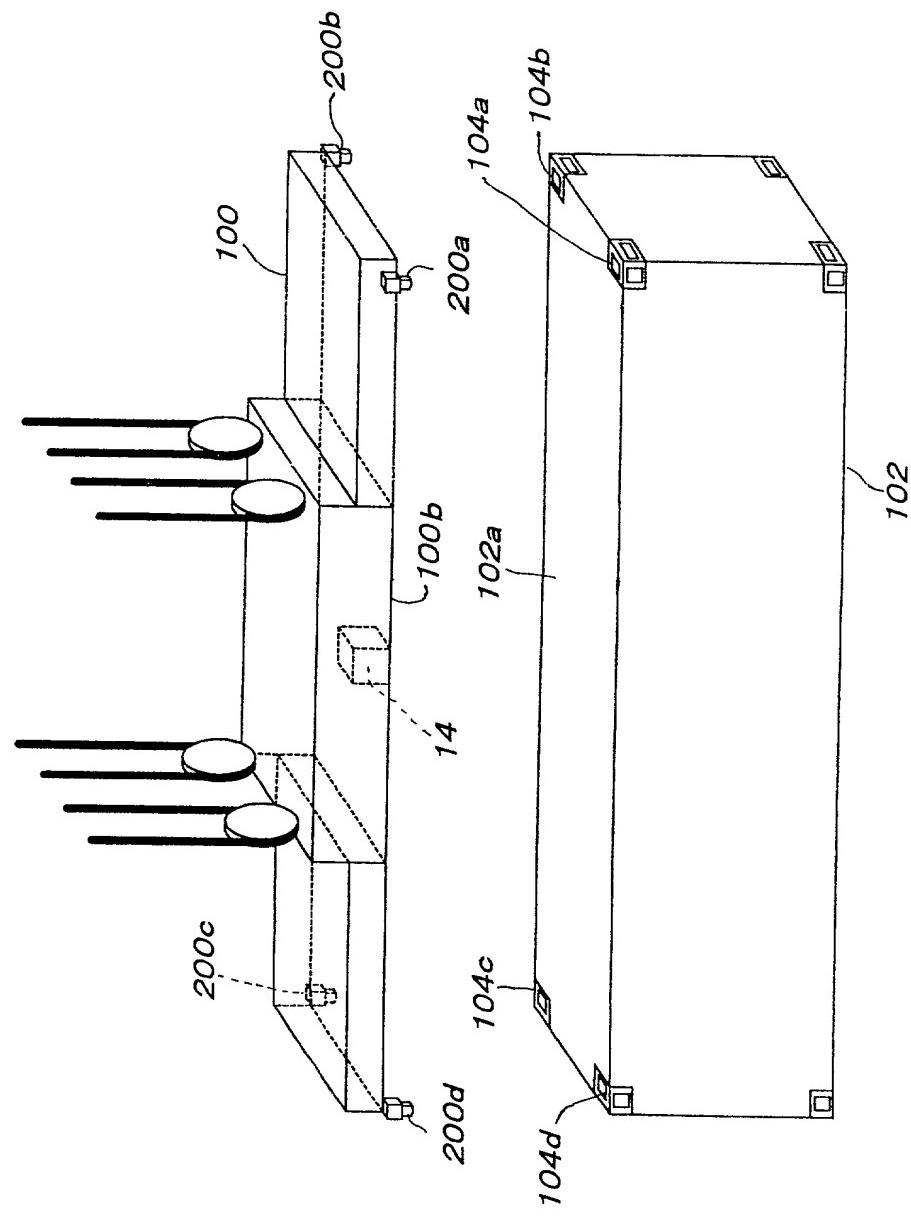
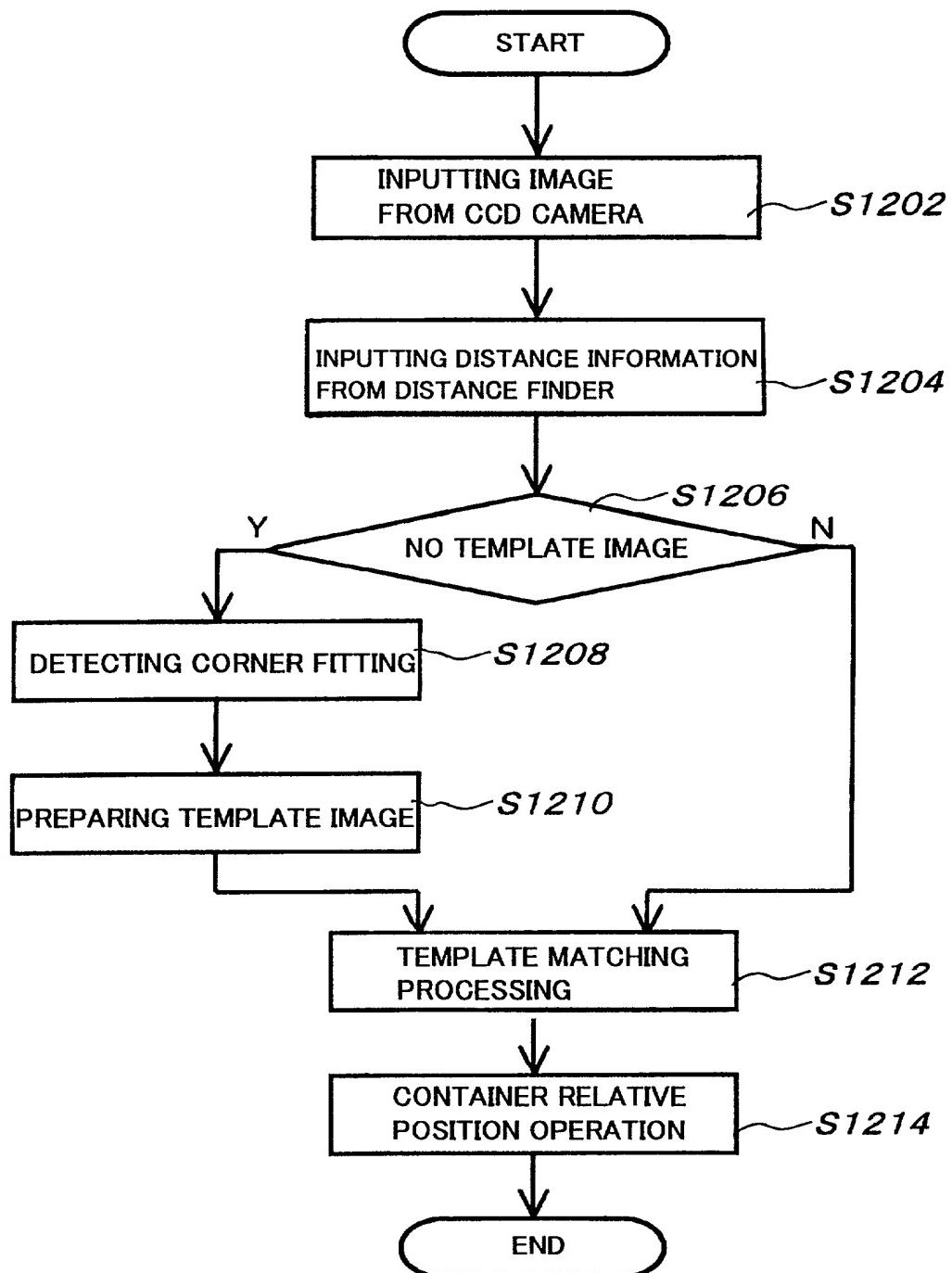


FIG. 12



00000000000000000000000000000000

FIG. 13

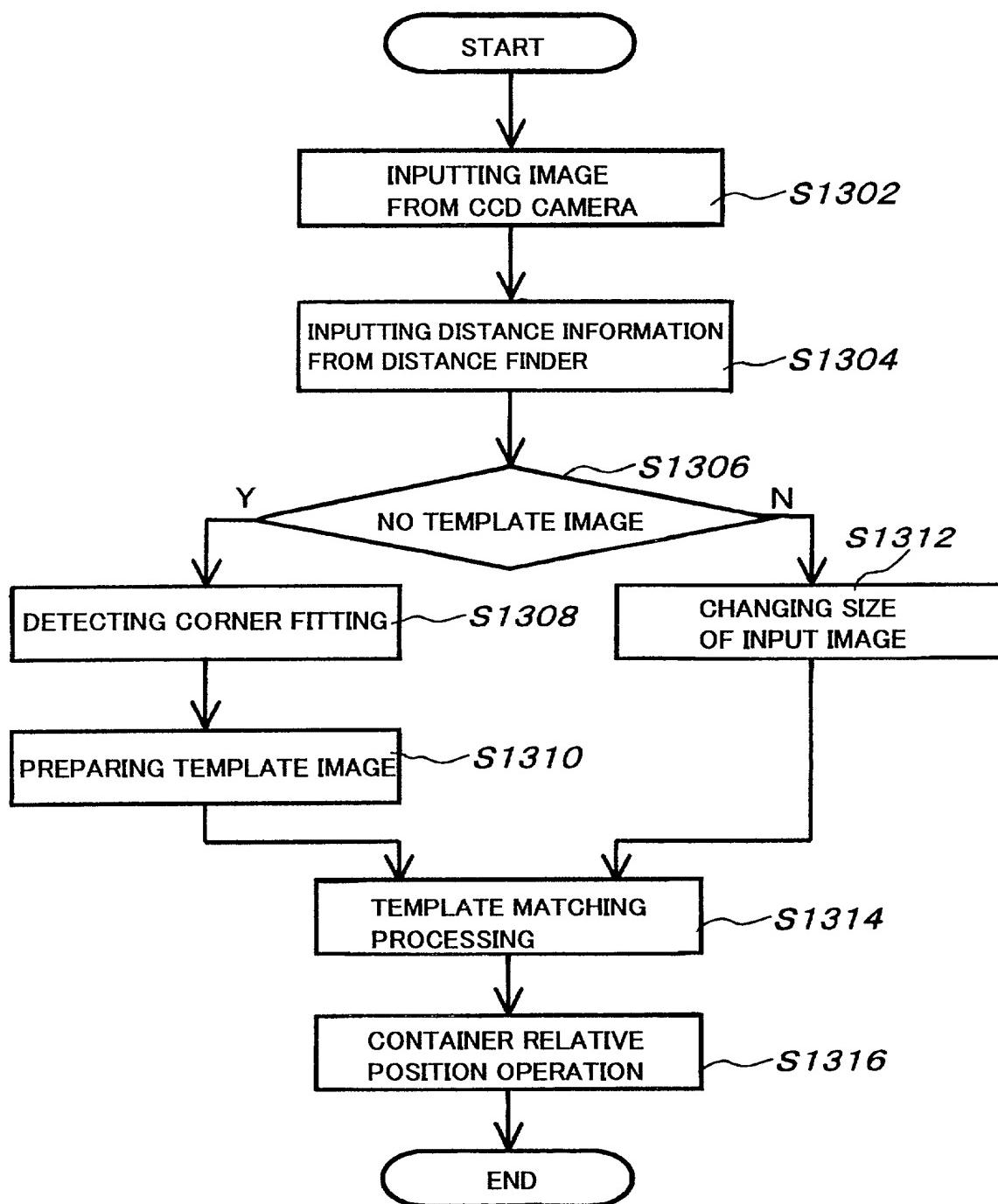


FIG. 14

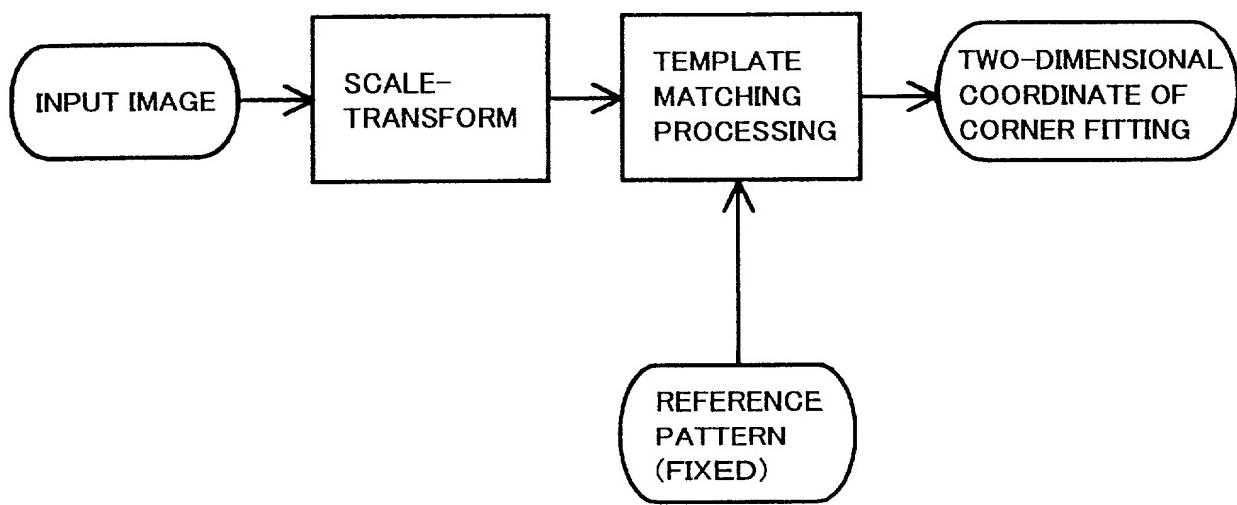


FIG. 15

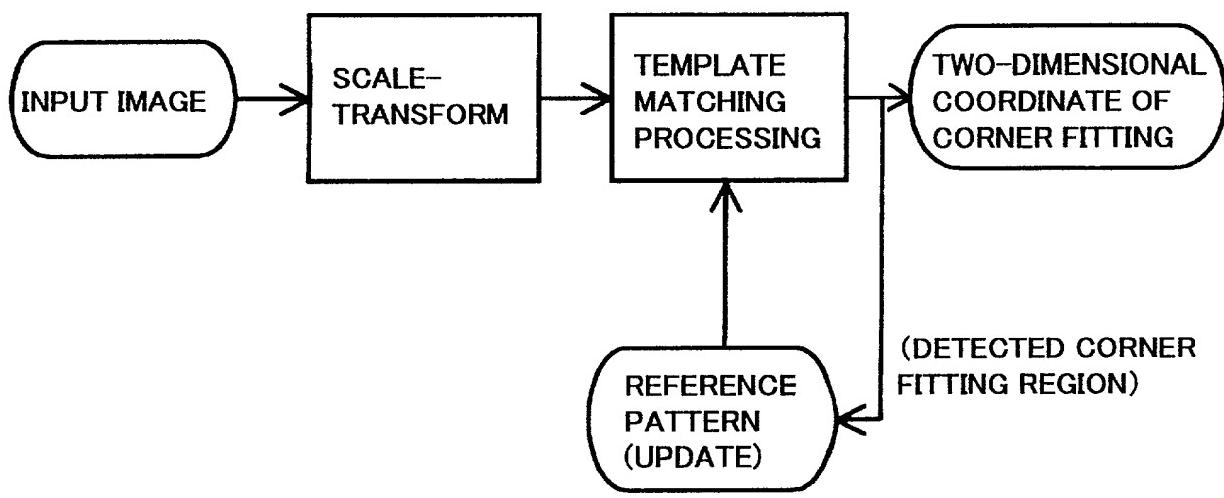


FIG. 16

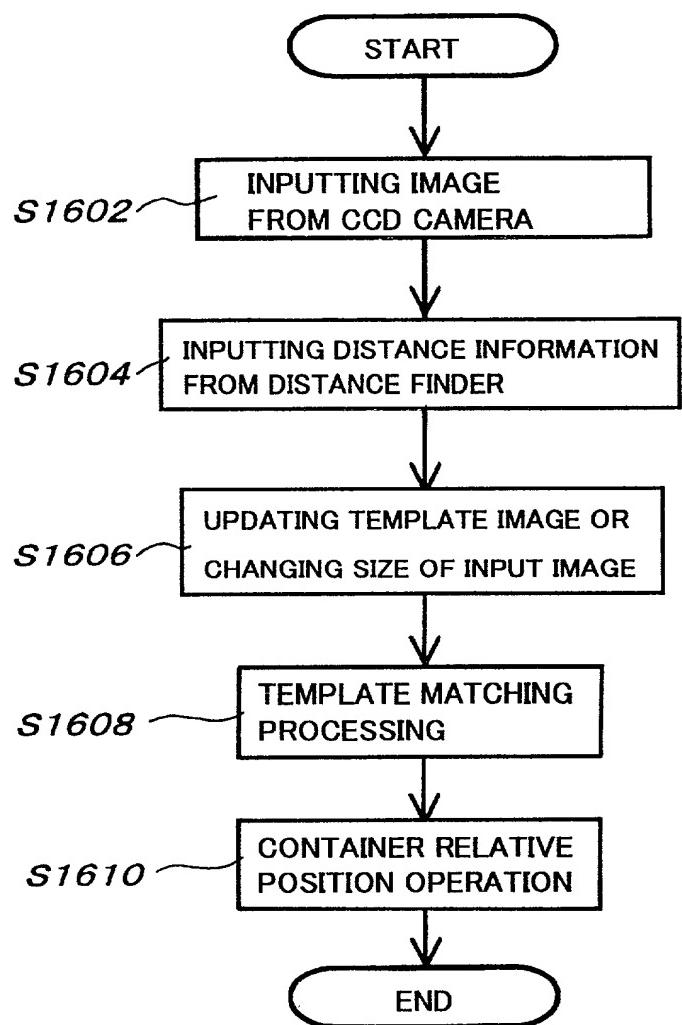


FIG. 17

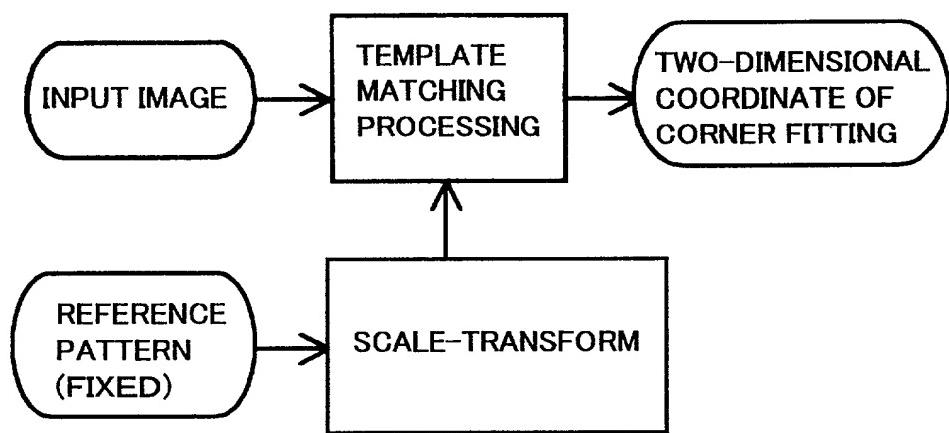


FIG. 18(a)

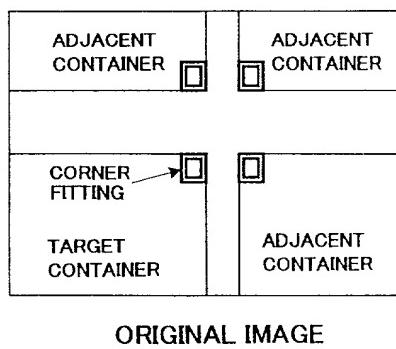


FIG. 18(d)

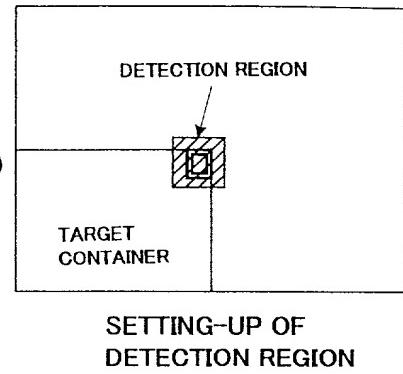


FIG. 18(b)

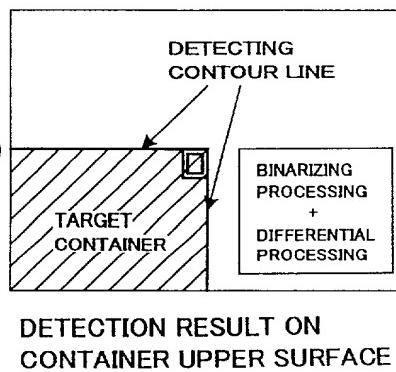


FIG. 18(e)

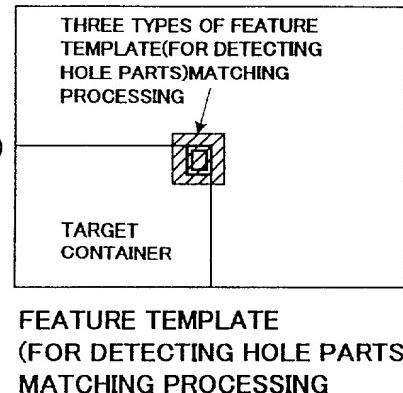


FIG. 18(c)

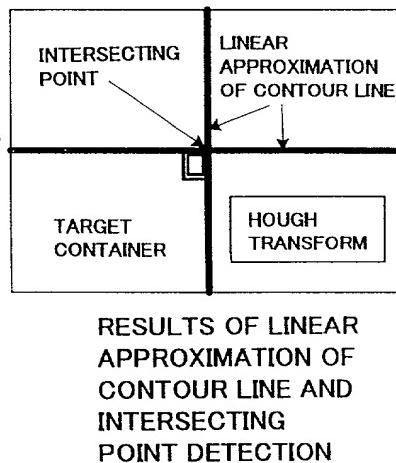


FIG. 18(f)

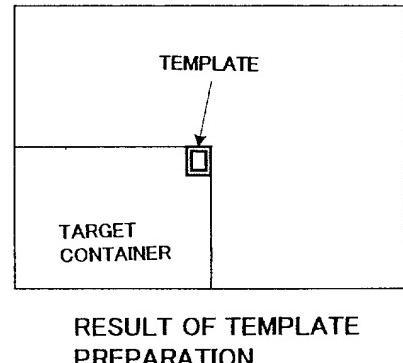


FIG. 19(a)

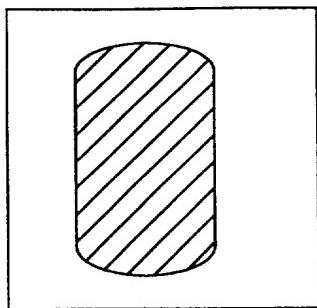


FIG. 19(c)

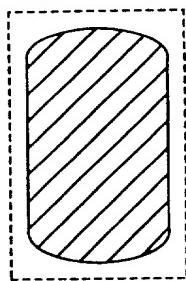
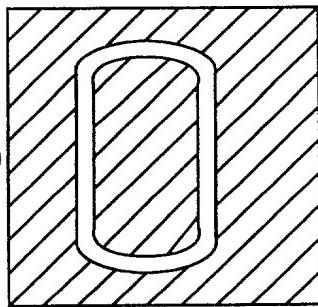


IMAGE DATA HAVING LOW
CONCENTRATION IN HOLE PART

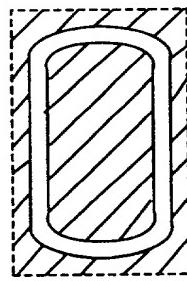
FIG. 19(b)



RESULT OF
DIFFERENTIAL PROCESSING

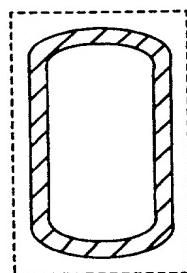
FEATURE TEMPLATE
(FOR DETECTING HOLE PARTS)
IMAGE 1

FIG. 19(d)



FEATURE TEMPLATE
(FOR DETECTING HOLE PARTS)
IMAGE 2

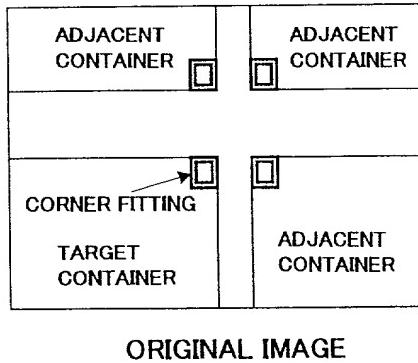
FIG. 19(e)



FEATURE TEMPLATE
(FOR DETECTING HOLE PARTS)
IMAGE 3

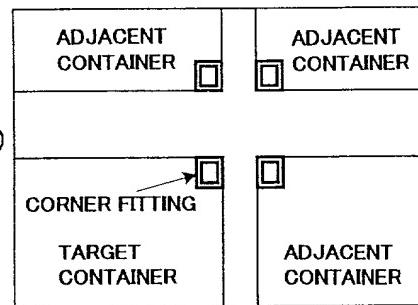
0 9 9 1 1 2 2 3 4 4 5 6 0 1

FIG. 20(a)



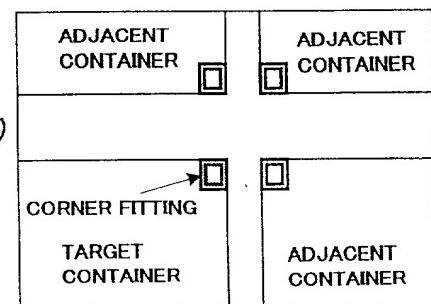
ORIGINAL IMAGE

FIG. 20(b)

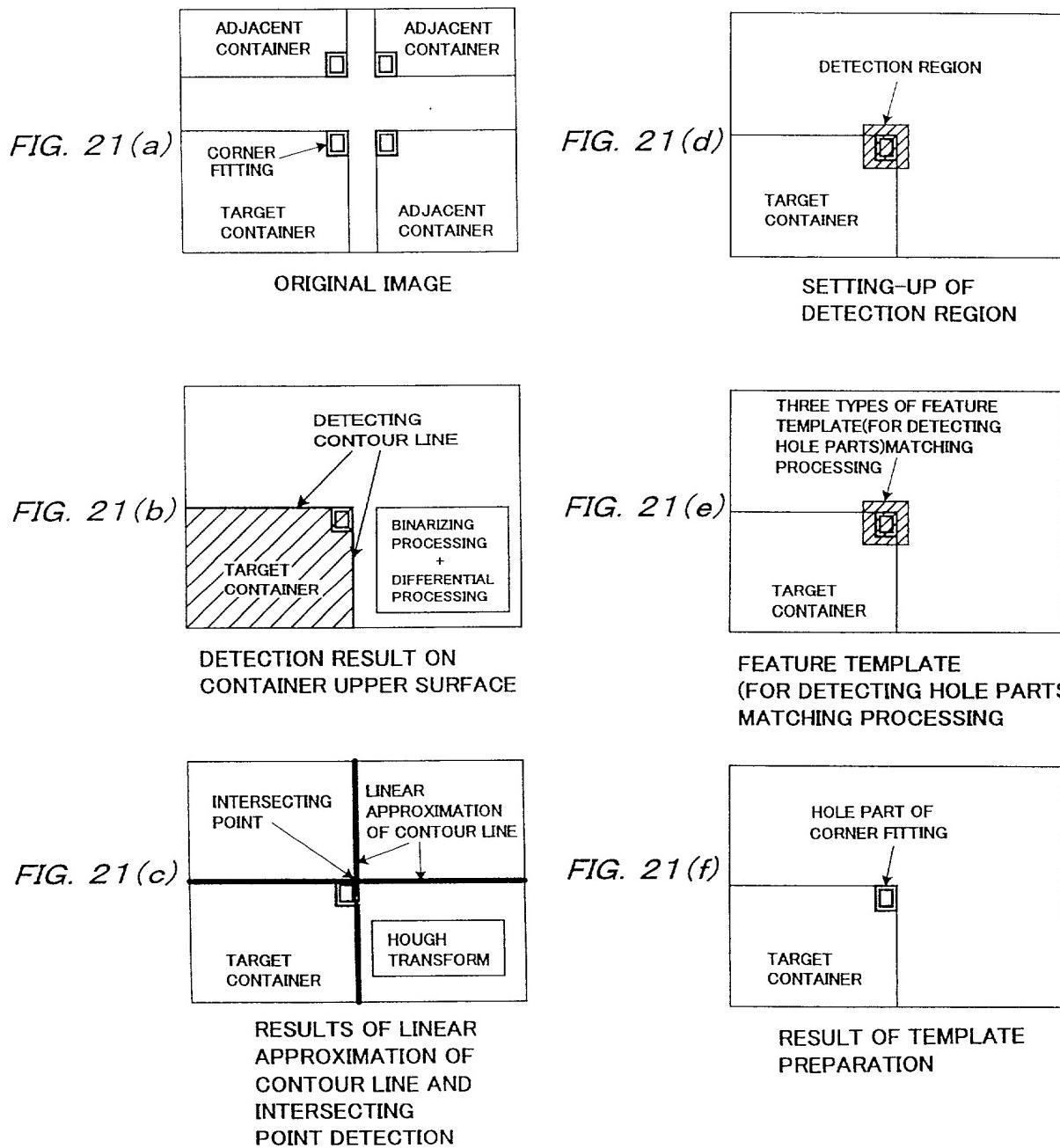


THREE TYPES OF FEATURE TEMPLATE
(FOR DETECTING HOLE PARTS)
MATCHING PROCESSING
(WHOLE IMAGE DATA)

FIG. 20(c)

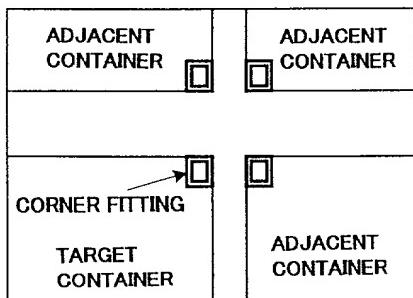


RESULT OF TEMPLATE
PREPARATION



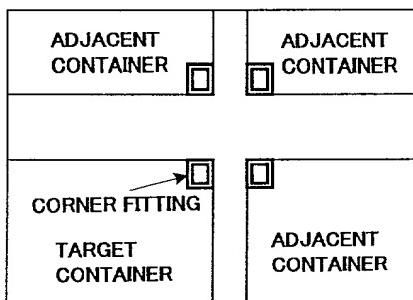
09941728 41956

FIG. 22(a)



ORIGINAL IMAGE

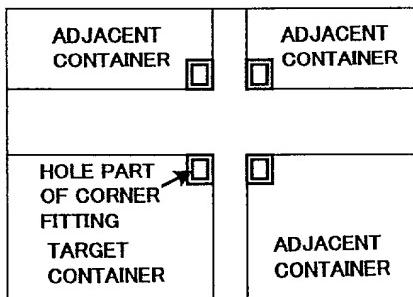
FIG. 22(b)



FEATURE TEMPLATE
(FOR DETECTING HOLE PARTS)
MATCHING PROCESSING

THREE TYPES OF FEATURE TEMPLATE
(FOR DETECTING HOLE PARTS)
MATCHING PROCESSING
(WHOLE IMAGE DATA)

FIG. 22(c)



RESULT OF TEMPLATE
PREPARATION